



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,616	11/12/2003	Bernd Glunk	I-73551	5869

27377 7590 02/23/2006

MACMILLAN, SOBANSKI & TODD, LLC  
ONE MARITIME PLAZA-FOURTH FLOOR  
720 WATER STREET  
TOLEDO, OH 43604

EXAMINER

DESAI, ANISH P

ART UNIT	PAPER NUMBER
----------	--------------

1771

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/706,616

Applicant(s)

GLUNK ET AL.

Examiner

Anish Desai

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 11, 12, 15-17 and 19-25 is/are pending in the application.
- 4a) Of the above claim(s) 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11, 12, 15-17 and 19-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1771

### DETAILED ACTION

The applicant's arguments in response to the Office action dated 07/28/05 have been fully considered.

1. The 35 USC § 112 rejections are withdrawn.
2. All of the art rejections are ~~withdrawn~~ *maintained* -
3. Newly added claim 25 is withdrawn.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 6,8,11,12,15-17, and 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byma et al. (US Patent Application Publication 2001/0037854A1) in view of Spengler (US 6,287,678B1), and further in view of Juriga (US 5,565,259).

Byma et al. teach a unitary composite headliner for a motor vehicle. The unitary composite headliner 10 of Byma et al. comprises an inner layer 16 that is sandwiched between two outer or reinforcing layers 18 and 20. A cover member 22 is attached to the reinforcing layer 20, and provides an aesthetically pleasing finished surface on the underside of the vehicle roof (Paragraph [0016]). Regarding claims 1 and 21, the examiner is equating the inner layer 16 of Byma et al. as the claimed core layer,

Art Unit: 1771

reinforcing layers 18 and 20 of Byma et al. as the claimed reinforcement layers, and the cover member 22 as the claimed decorative layer. The inner layer and the reinforcing layer read on the claimed sandwich as claimed in the claims 1 and 21. Further Byma et al. teach that an adhesive can be used to bond the cover layer 22 to the reinforcing layer 20 (Paragraph [0020]). Moreover, the reinforcing layers of Byma et al. contain fibers and binder material that are formed of recyclable thermoplastic polymer, including polyester, nylon, polyethylene and/or polypropylene (Paragraph [0019]). The polyethylene and polypropylene binder of Byma et al. read on the plastic matrix of polyethylene and polypropylene as claimed in claims 1, 2, 22, and 23. Byma et al. do not explicitly teach non-directional fibers, however Byma et al. teach that many modifications and variations of the invention are possible in light of their teachings (Paragraph [0028]). Thus, a skilled artisan can obviously use non-directional fibers in the reinforcing layers of Byma et al. Note that the examiner is interpreting non-directional fibers as fibers that are randomly distributed in the reinforcing layers.

Byma et al. are silent as to teaching of the core layer formed of polypropylene foam. However, Spengler teaches a composite structural panels comprising polymeric materials as interior trim components in motor vehicles, aircraft, railroad cars, and the like. Such trim components include molded dashboards, interior door panels and inserts, headliners, and the like (Column 1, lines 14-19). Spengler discloses a cover sheet laminated onto a three-layered substrate including a thermoplastic foam core sandwiched between the two composite outer layers. The thermoplastic material of all layers is preferably polypropylene (Abstract). Thus the foam core layer of Spengler is

Art Unit: 1771

made of polypropylene. Further, Spengler teaches that due to the air permeable foam core of his invention the composite structure achieves very good sound absorbing and sound damping qualities (Column 5, lines 25-30). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the polypropylene foam core layer of Spengler as an inner layer of Byma et al., motivated by the desire to provide excellent sound absorbing and sound damping qualities to the unitary composite headliner of Byma et al.

Byma et al. are silent as to teaching of an adhesive mat disposed between the decorative layer and a sandwich define by the core layer and the reinforcement layer. However, Juriga discloses laminates that are suitable for use as a vehicle headliner etc. (Column 1, lines 15-21). The laminates of Juriga include a finish lamina and a substrate lamina comprising a flexible foam lamina and multiple supporting scrim laminae. In a preferred embodiment, thin flexible adhesive webs located between the laminae bond the laminae together forming a structurally stable, self-supporting laminate (Column 1, lines 21-26). Additionally, Juriga teaches that the adhesive web is lightweight and extremely thin, yet provide a strong bond between laminae. This adhesive web has advantage relative to other adhesive sheets known in the art because it provides structural stability to the laminate without addition excessive weight to the laminate (Column 3, lines 3-9). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the adhesive web of Juriga to bond the cover member and the reinforcing layer of a unitary composite headliner of Byma et

Art Unit: 1771

al., motivated by the desire to provide strong adhesive bonding between the cover member and the reinforcing layer of Byma et al.

With respect to the recitation "sandwich is warmed softening the adhesive mat by contact heat", it is the examiner's position that the said recitation is directed to product by process limitation. The products by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "Even though product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). In the instantly claimed subject matter, the roof liner of the applicant comprises a core layer with a reinforcement layer on each side of the core layer, a decorative layer attached to one of the reinforcement layer, and an adhesive mat is disposed between the decorative layer and the sandwich to securely bond the decorative layer to the sandwich. The unitary composite headliner 10 of Byma et al. as modified by Spengler and Juriga comprises an

Art Unit: 1771

inner polypropylene foam layer that is sandwiched between two outer or reinforcing layers. The inner layer and the reinforcing layer of Byma et al. define a sandwich. Further a cover member is attached to the reinforcing layer by an adhesive web wherein the cover layer provides an aesthetically pleasing finished surface on the underside of the vehicle roof. Thus, the unitary composite headliner of Byma et al. as modified by Spengler and Juriga is similar to the applicant's roof liner.

Regarding claims 3 and 15, although Byma et al. as modified by Spengler and Juriga do not explicitly teach the claimed stretch ratio of the polypropylene foam material between 4 and 5 and 6 and 40, it is reasonable to presume that the polypropylene foam of Byma et al. as modified by Spengler and Juriga necessarily has the claimed stretch ratio because like material has like property. For example, the foam material of the applicant is made of polypropylene and the foam core layer of Byma et al. as modified by Spengler and Juriga is also made of polypropylene. The burden is on the applicant to prove it otherwise.

Regarding claims 4 and 16, the headliner 110 of Byma et al. includes a stiffening layer 112 and a scrim layer 114 overlaying the reinforcing layer 18. The stiffening layer 112 provides additional rigidity to the headliner 110 and may comprise natural fibers such as jute, knaff, or hemp (Paragraph [0021]). Note that Byma et al. teach that many modification and variations of the invention are possible in light of their teachings (Paragraph [0028]). Further the reinforcing layer of Byma et al. also provides rigidity (Paragraph [006]). Thus, even though Byma et al. do not explicitly teach said natural

Art Unit: 1771

fibers in the reinforcing layers, Byma et al. provide sufficient motivation to a skilled artisan to incorporate natural fibers in the reinforcing layers.

Regarding claim 6, Byma et al. disclose a binder material and polyester fibers in the reinforcing layers (Paragraph [0019]). The binder material of Byma et al. reads on as the claimed bonding agent.

Regarding claims 8 and 17, although, Byma et al. do not explicitly teach the fibrous portion of fibers in the reinforcing layers is between 20 to 35 percent by weight as claimed, however Byma et al. teach that the fibers can be used as a binder material (Paragraph [0018]). The reinforcing layers of Byma et al. contain 20-50% binder material (Paragraph [0019]). Thus, a skilled artisan can use 20-50% of fibers as a binder material in the reinforcing layers of Byma et al.

Regarding claims 11 and 19, the stiffening layer of Byma et al. is used to provide additional rigidity to the unitary composite headliner and comprises materials such as fiberglass (Paragraph [0021]). Moreover, Byma et al. teach that the stiffening layer can be sandwiched between any of the layers 16 (inner layer), 18 (reinforcing layer), and 20 (reinforcing layer) (Paragraph [0021]). The stiffening layer provides additional rigidity to the headliner (Paragraph [0021]). Note that the reinforcing layers of Byma et al. are also used to provide rigidity (Paragraph [006]). The stiffening layer can also function as an additional reinforcing layer. Thus, the stiffening layer and the reinforcing layer of Byma et al. can be collectively considered as a "reinforcing layer". Moreover, recall that Byma et al. teach that many modifications and variations of the invention are possible in light of their teachings (Paragraph [0028]). Hence, a skilled artisan can incorporate



Art Unit: 1771

fiberglass of the stiffening layer into the reinforcing layer. Note that, fiberglass is glass fibers that are synthetically manufactured.

Regarding claims 12 and 20, the inventions of Byma et al. and Spengler are previously disclosed. The unitary composite headliner of Byma et al. can function as vibration absorbing entity due to the incorporation of reinforcing layers (see Abstract). Further, Byma et al. teach that there may be plurality of inner layers, which are configured to absorb sound and vibrations. Thus, the additional inner layers of Byma et al. are considered to be integrated energy absorption elements.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Byma et al. (US Patent Application Publication 2001/0037854A1) in view of Spengler (US 6,287,678B1), further in view of Juriga (US 5,565,259), and further in view of Smith et al. (US 4,948,661).

The invention of Byma et al. as applied to claim 1 is previously disclosed. Byma et al. are silent as to teaching of the reinforcement layer is a fiber mat containing a polyolefin powder additive. However, Smith et al. teach fiber reinforced thermoplastic molded products and sheets having glossy surface (see Abstract). The invention of Smith et al. relates to automobiles (see Abstract and Column 5, lines 34-36). Smith et al. disclose a smooth, glossy finished fiber reinforced thermoplastic prepreg materials composed of reinforcement fibers impregnated with and surrounded by thermoplastic fibers (Column 1, lines 42-46). Smith et al. disclose thermoplastic powder that is supplemented with the blend of thermoplastic fibers (Column 5, line 3) that make the prepreg material. Further, Smith et al. disclose polypropylene powder in the Example 6.

Art Unit: 1771

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the polyolefin powder added fiber reinforced prepreg material as a fiber mat in the reinforcing layer of Byma et al., motivated by the desire to provide a stronger reinforcing layer that can provide sufficient strength and durability to the unitary composite headliner of Byma et al.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Byma et al. (US Patent Application Publication 2001/0037854A1) in view of Spengler (US 6,287,678B1) further in view of Juriga (US 5,565,259), and further in view of Brant et al. (US 4,741,945).

The invention of Byma et al. as applied to the claim 1 is previously disclosed. Byma et al are silent as to teaching of reinforcement layer of polyester mat. However, Brant et al. teach trim panels such as automobile headliners (Column 1, lines 5-10). According to Brant et al., the trim panel 10 is a laminar arrangements or a semi flexible support layer 14, comprising, a thermoplastic foam core layer 16 interposed between and bonded to sheets or films 18 and 20 of the same or different thermoplastic polymer (Column 3, lines 1-6). Moreover, the sheets 18 and 20 can include polyester fiber mats (Column 3, lines 61-62). Additionally, Brant et al. teach that the sheets or films 18 and 20 have higher impact resistance than the foam core material. Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the polyester mat as the reinforcing layer in the invention of Byma et al., motivated by the desire to provide a unitary composite headliner with high impact resistant characteristics.

***Response to Arguments***

7. Applicant's arguments filed on 11/28/05 have been fully considered but they are not persuasive.
8. The 35 USC § 112 rejections are withdrawn in view of applicant's amendments and response (see pages 2-4 and 7 of 11/28/05 amendments).
9. Newly submitted claim 25 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claim 25 is directed to a method of manufacturing a roof liner and claims 1-24 are directed towards a roof liner. Since the applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 25 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.
10. Applicant argues that Juriga reference discloses the use of adhesive webs but does not teach or suggest that the adhesive mat is disposed between the decorative layer and a sandwich layer and that sandwich is warmed softening the adhesive mat by contact heat such that the decorative layer is joined securely to the sandwich. Instead Juriga reference teaches placing the laminae laid in face-to-face relation with an adhesive web and then preheating the laminate in an oven to at least the glass transition temperature of the adhesive web. The examiner respectfully disagrees. The examiner is not relying on the Juriga reference for the placement of the adhesive mat between the decorative layer and a sandwich layer but rather on the Byma reference.

Art Unit: 1771

Byma clearly teaches that an adhesive can be used to bond the cover layer 22 to the reinforcing layer 20. Thus, the adhesive of Byma is disposed between the cover layer 22 and the reinforcing layer 20. The examiner is relying on Juriga reference to teach the adhesive in the form of a web.

Further with respect to applicant's argument that Juriga reference does not teach or suggest that the sandwich is warmed softening the adhesive mat by contact heat such that decorative layer is joined securely to the sandwich. It is the examiner's position that the applicant's argument is directed to a product by process limitation. The products by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "Even though product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). In the instantly claimed subject matter, the roof liner of the applicant comprises a core layer with a reinforcement layer on each side of the core layer, a decorative layer attached to one of

Art Unit: 1771

the reinforcement layer, and an adhesive mat is disposed between the decorative layer and the sandwich (i.e. reinforcement layer/core layer/reinforcement layer) to securely bond the decorative layer to the sandwich. The unitary composite headliner 10 of Byma et al. as modified by Spengler and Juriga comprises an inner polypropylene foam layer that is sandwiched between two outer reinforcing layers. Further a cover member is attached to the reinforcing layer by an adhesive web wherein the cover layer provides an aesthetically pleasing finished surface on the underside of the vehicle roof. Thus, the unitary composite headliner of Byma et al. as modified by Spengler and Juriga is similar to the applicant's roof liner. Hence, all the claims stand rejected.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anish Desai whose telephone number is 571-272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

APD

*Haivo*

**HAIVO  
PRIMARY EXAMINER**